Earth and Environmental Science in Ireland

PROGRAM:
This course concept is designed to fulfill several needs of IDLS, specifically those Mathematics & Science concentration candidates, as well as Secondary Science Education (SEED) minor students, serving the needs of prospective secondary Earth and Biology teachers. It will serve as an intensive, field-based, upper division course of 3 credit hours each in Earth Science and Biology, and will last two weeks. An additional 1 credit hour assignment for each course will be available for students by the completion of an additional instructional task. Four 2-hour preliminary sessions are required and will be scheduled in the spring prior to the course, along with a one-night overnight camping trip to Dolly Sods in early June 2015.

The proposed course will embody Earth and environmental science content, where students will examine first-hand the geology, flora, and fauna of Connemara, as well as the interactions of these elements with each other and the relative impacts of humans. Specific themes to be pursued in the course design include:

• The Bedrock – Igneous & metamorphic rock, sediments & sedimentary rock, and fossils;
• Shaping the Land – Geomorphology of glacial, fluvial, and karst environments;
• Where the Land meets Sea – Coastal environments;
• The Veneer of Life – Flora and fauna of bog, lacustrine, and stream environments;
• Impact of Humans – The impact of development, pollution, and overall global changes;
• Design of Field-Based Scientific Investigations – how to design, conduct, and report the results of a field-based inquiry, translatable to a classroom or home setting;
• Biological communities and commercial utilization of natural resources;
• Cultural Similarities and Differences – Tour of Galway, Neolithic, Bronze-age, and Medieval sites.

This course will allow students to meet general program objectives for international study, specific to mathematics and science. It will also provide an inquiry-based experience for prospective teachers that match requirements of scientific investigation required by accrediting bodies, especially for prospective middle- and secondary- grades teachers. Additional tasks that would extend the credit option would include the development of instructional materials for classroom use and service learning tasks such as developing interpretive signage and materials for use on “geo-trails” in both the US and in Ireland.

DATES: June 26, 2015 – July 11, 2015 (all dates are tentative and subject to change)

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COURSES:
GEOL 398. Topics in Geology (3)
GEOL 501. Topics in Geology—Graduate (3)
BIOL 426. Topics in Biology (3)
BIOL 501. Topics in Biology—Graduate (3)